

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

Claims 1-19. (Canceled)

20. (Currently Amended) A method of generating a transport stream, comprising:

reproducing an MPEG transport stream composed of a series of transport packets carrying data from a recording medium for transferring the MPEG transport stream through a digital interface;

inserting program managing information for managing presentation of the data carried in the reproduced MPEG transport stream when a discontinuity occurs in the MPEG transport stream; and

transferring the MPEG transport stream including the inserted program managing information through the digital interface,

wherein the inserting step includes:

generating the program managing information in the form of a transport packet; and

inserting the generated transport packet into the reproduced MPEG transport stream.

21. (Canceled).

22. (Currently Amended) The method of claim ~~24~~20, wherein the generated transport

packet is inserted between two points in the reproduced MPEG transport stream.

23. (Previously Presented) The method of claim 22, wherein there are no audio/video transport packets between the two points in the reproduced MPEG transport stream.

24. (Currently Amended) The method of claim ~~24~~20, wherein the generated transport packet is inserted between two of the transport packets existing in the reproduced MPEG transport stream.

25. (Previously Presented) The method of claim 20, wherein in the reproducing step, the recording medium is an optical disc.

26. (Previously Presented) The method of claim 20, wherein in the reproducing step, the MPEG transport stream is an MPEG-2 transport stream.

27. (Currently Amended) The method of claim ~~24~~20, wherein the inserting step is performed within an optical disc player.

28. (Previously Presented) The method of claim 27, wherein the reproducing step is performed by the optical disc player.

29. (Canceled).

30. (Currently Amended) A method of generating a transport stream, comprising:

recording an MPEG transport stream composed of a series of transport packets carrying data on a recording medium, said MPGE transport stream to be transmitted through a digital interface;

reproducing, from the recording medium, the recorded MPEG transport stream;

inserting program managing information for managing presentation of the data carried in the reproduced MPEG transport stream when a discontinuity occurs in the MPEG transport stream; and

transmitting the MPEG transport stream having the program managing information inserted therein through the digital interface,

wherein the inserting step includes:

generating the program managing information in the form of a transport packet; and

inserting the generated transport packet into the reproduced MPEG transport stream.

31. (Canceled).

32. (Currently Amended) The method of claim ~~34~~30, wherein the generated transport packet is inserted between two points in the reproduced MPEG transport stream where there are no audio/video transport packets between the two points.

33. (Currently Amended) The method of claim ~~34~~30, wherein the generated transport

packet is inserted between two of the transport packets existing in the reproduced MPEG transport stream.

34. (Previously Presented) The method of claim 30, wherein in the reproducing step, the recording medium is an optical disc.

35. (Currently Amended) The method of claim ~~31~~30, wherein the inserting step is performed within an optical disc player.

36. (Previously Presented) The method of claim 35, wherein the reproducing steps is performed by the optical disc player.

37. (Canceled).

38. (Currently Amended) An apparatus for generating a transport stream, comprising:  
a reproducing part to reproduce an MPEG transport stream composed of a series of transport packets carrying data from a recording medium for transferring the MPEG transport stream through a digital interface, and to insert program managing information for managing presentation of the data carried in the reproduced MPEG transport stream when a discontinuity occurs in the MPEG transport stream; and  
a transmitting part to transmit the MPEG transport stream having the program managing information inserted therein through the digital interface.

wherein the reproducing part generates the program managing information in the form of a transport packet, and inserts the generated transport packet into the reproduced MPEG transport stream.

39. (Canceled).

40. (Currently Amended) The apparatus of claim ~~39~~38, wherein the reproducing part inserts the generated transport packet between two points in the reproduced MPEG transport stream.

41. (Previously Presented) The apparatus of claim 40, wherein there are no audio/video transport packets between the two points in the reproduced MPEG transport stream.

42. (Currently Amended) The apparatus of claim ~~39~~38, wherein the reproducing part inserts the generated transport packet between two of the transport packets existing in the reproduced MPEG transport stream.

43. (Previously Presented) The apparatus of claim 38, wherein the recording medium is an optical disc.

44. (Previously Presented) The apparatus of claim 38, wherein the MPEG transport stream is an MPEG-2 transport stream.

45. (Currently Amended) The apparatus of claim ~~39~~38, wherein the apparatus is an optical disc player.

46. (Canceled).

47. (Currently Amended) An apparatus for generating a transport stream, comprising:  
a recording/reproducing part to record an MPEG transport stream composed of a series of transport packets carrying data on a recording medium, said MPEG transport stream to be transmitted through a digital interface; to reproduce, from the recording medium, the recorded MPEG transport stream; and to insert program managing information for managing presentation of the data carried in the reproduced MPEG transport stream when a discontinuity occurs in the MPEG transport stream; and

a transmitting part to transmit the MPEG transport stream having the program managing information inserted therein through the digital interface,

wherein the recording/reproducing part generates the program managing information in the form of a transport packet, and inserts the generated transport packet into the reproduced MPEG transport stream.

48. (Canceled).

49. (Currently Amended) The apparatus of claim ~~48~~47, wherein the generated transport packet is inserted between two points in the reproduced MPEG transport stream where there are

no audio/video transport packets between the two points.

50. (Currently Amended) The apparatus of claim 4847, wherein the generated transport packet is inserted between two of the transport packets existing in the reproduced MPEG transport stream.

51. (Previously Presented) The apparatus of claim 47, wherein the recording medium is an optical disc.

52. (Canceled).

53. (Currently Amended) An apparatus for generating a transport stream, comprising:  
means for reproducing an MPEG transport stream composed of a series of transport packets carrying data from a recording medium for transferring the MPEG transport stream through a digital interface;

means for inserting program managing information for managing presentation of the data carried in the reproduced MPEG transport stream when a discontinuity occurs in the MPEG transport stream; and

means for transmitting the MPEG transport stream including the inserted program managing information through the digital interface,

wherein the inserting means generates the program managing information in the form of a transport packet, and inserts the generated transport packet into the reproduced MPEG

transport stream.

54. (Currently Amended) An apparatus for generating a transport stream, comprising:

means for recording an MPEG transport stream composed of a series of transport packets carrying data on a recording medium, said MPEG transport stream to be transmitted through a digital interface;

means for reproducing, from the recording medium, the recorded MPEG transport stream;

means for inserting, into the reproduced MPEG transport stream, program managing information for managing presentation of the data carried in the reproduced MPEG transport stream when a discontinuity occurs in the MPEG transport stream; and

means for transmitting the MPEG transport stream having the program managing information inserted therein through the digital interface,

wherein the inserting means generates the program managing information in the form of a transport packet, and inserts the generated transport packet into the reproduced MPEG transport stream.

55. (Previously Presented) The method of claim 20, further comprising:

detecting a null time interval in the MPEG transport stream, said null time interval corresponding to said discontinuity,

wherein the inserting step inserts the program managing information into the detected null time interval.



56. (Previously Presented) The method of claim 30, further comprising:  
  
detecting a null time interval in the MPEG transport stream, said null time interval corresponding to said discontinuity,  
  
wherein the inserting step inserts the program managing information into the detected null time interval.

57. (Previously Presented) The apparatus of claim 38, further comprising:  
  
a detecting part configured to detect a null time interval in the MPEG transport stream, said null time interval corresponding to said discontinuity,  
  
wherein the reproducing part inserts the program managing information into the detected null time interval.

58. (Previously Presented) The apparatus of claim 47, further comprising:  
  
a detecting part configured to detect a null time interval in the MPEG transport stream, said null time interval corresponding to said discontinuity,  
  
wherein the recording/reproducing part inserts the program managing information into the detected null time interval.

59. (Previously Presented) The apparatus of claim 53, further comprising:  
  
means for detecting a null time interval in the MPEG transport stream, said null time interval corresponding to said discontinuity,  
  
wherein the means for inserting inserts the program managing information into the

detected null time interval.

60. (Previously Presented) The apparatus of claim 54, further comprising:  
means for detecting a null time interval in the MPEG transport stream, said null time interval corresponding to said discontinuity,  
wherein the means for inserting inserts the program managing information into the detected null time interval.